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Cc: [EOC Water](#)
Subject: OW Management Report for Hurricanes Harvey and Irma for 9/10/2017
Date: Sunday, September 10, 2017 1:41:50 PM
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[OW Management Report Harvey Irma 9102017.docx](#)

Attached and pasted below is the OW Management Report for Hurricanes Harvey and Irma for 9/10/2017.

Please let me know if you have questions.

Brian Pickard
EOC Water Desk
202-536-8682

Hurricane Harvey Update

Background:

Response and recovery efforts continue throughout the Gulf Coast of TX and LA. Rivers continue to recede in the region, however major to record levels will persist through late this week or early next week for several areas, including Houston and Beaumont.

Federal Activities:

FEMA has activated the NRCC at Level 1 with all Emergency Support Functions (ESFs) and deployed National and several regional Incident Management Assistance Teams (IMATs). FEMA's Region 6 RRCC is also at Level 1.

State Activities:

The TX SEOC remains at full activation, while the LA SEOC remains at Level III (24 hours).

EPA HQ:

Water Desk Staffing for the coming week is as follows:

Sunday 9/10: Brian Pickard
Monday 9/11: Kevin Tingley
Tuesday 9/12: David Goldbloom-Helzner
Wednesday 9/13: Jeff Fencil

Thursday 9/14: David Goldbloom-Helzner

Friday 9/15: Kevin Tingley

Saturday 9/16-Sunday 9/17: Curt Baranowski

EPA Activities: Region 6:

20 Community Liaisons have been deployed and will be directed to strategic locations within impacted counties. The Community Liaisons will distribute information to assist citizens with common environmental and health issues they might face following a flood.

Private Domestic Drinking Water Wells Sampling Under ESF-8: On 09/08/2017 EPA Region 6 REOC Environmental Unit had a coordinating call with ATSDR to discuss and elaborate on possible disinfection assistance and sampling of private domestic drinking water wells. EPA has confirmed 21 of the 39 disaster declaration counties are currently providing private well testing for area residents. Four counties are offering free testing. The other seventeen are providing low cost (\$16.50) well testing through the Department of Health. EPA is assessing if the remaining 18 counties need additional support. If so, CDC intends to enlist EPA as a supporting agency under ESF-8 with particular interest in sampling teams and analyses addressing total coliforms. EPA would receive a sub-mission assignment and funds to execute the assignment.

A Drinking Water Technical Support Team was deployed to provide technical support to City of Beaumont Water System.

Drinking Water / Wastewater Assessments

On September 8, all staff at the TCEQ Austin phone bank were demobilized. EPA is providing support to TCEQ for drinking water and wastewater system assessments. Ten EPA personnel are conducting drinking water assessments in the Houston Branch, while an additional five personnel are conducting wastewater assessments.

The 3 tables below show the status of DW systems and the DW/WW assessments as of September 9, 2017.

Drinking Water and Waste Water Assessments (September 9, 2017)		
Assessment Types	Daily Assessments	Total Assessments
On-Site DW Assessments	53	347
On-Site WW Assessments	26	237
Phone DW Assessments	331	5006
Phone WW Assessments	82	3026

Drinking Water: **Same as yesterday but repeated here.** Both EPA and the TCEQ are contacting

remaining systems to gather updated information of their status. Assistance teams are in the field working directly with system operators to expedite getting systems back to operational status.

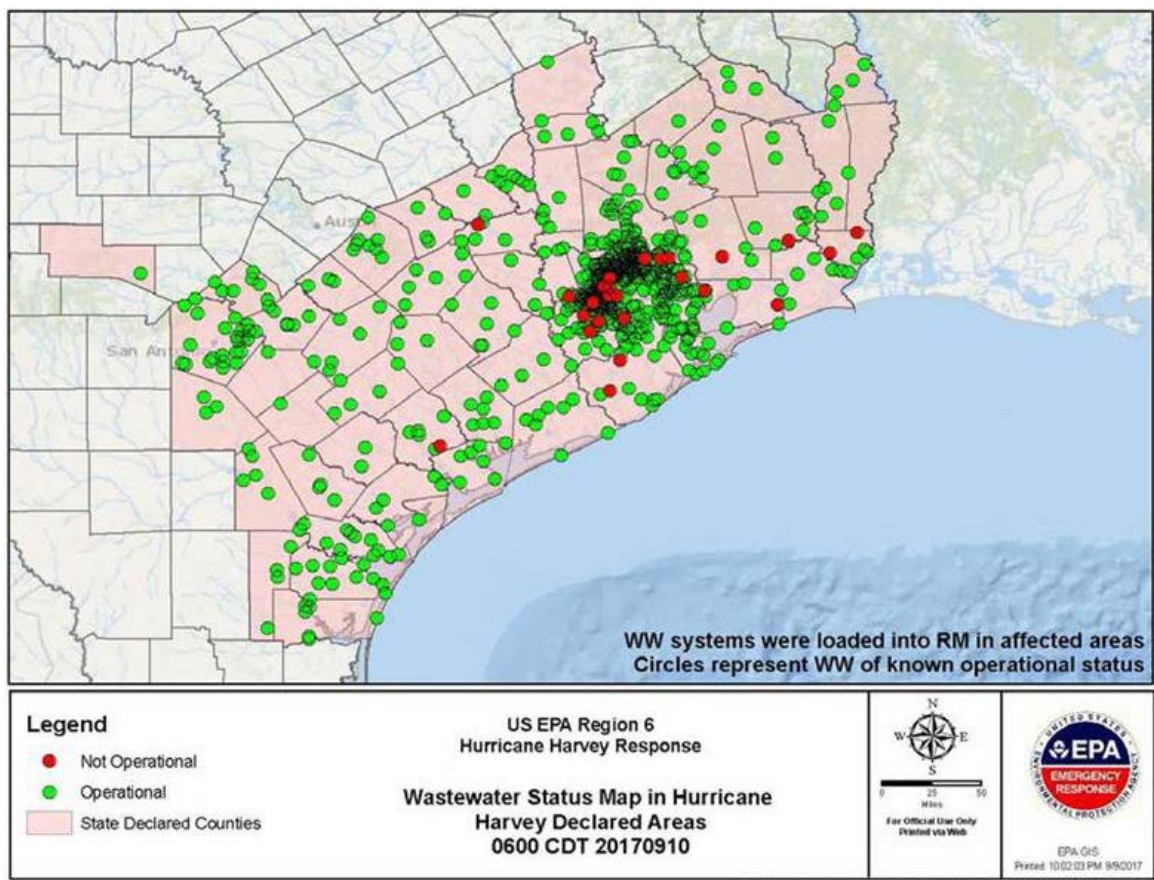
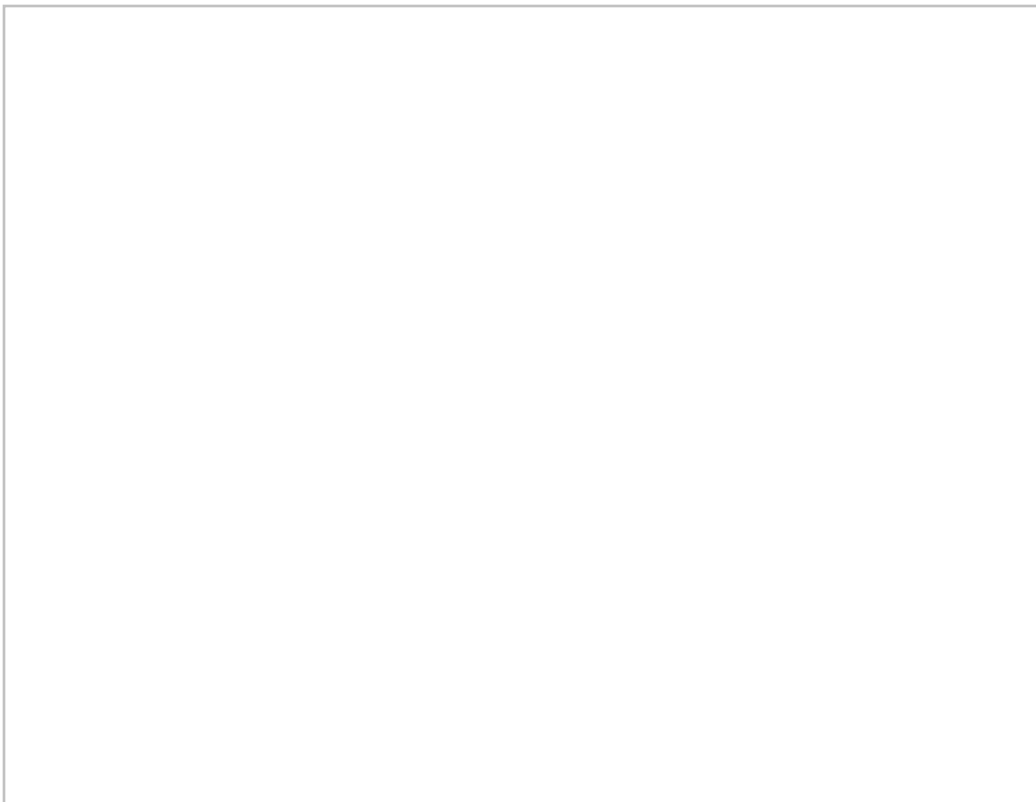
	Number of Drinking Water Systems	Population
Fully Operational	1,924	NA
Boil Water Notices	161	NA
Shutdown	52	NA
Awaiting update	101	NA

Wastewater and Sewage: **Same as yesterday but repeated here.**

	Number of Wastewater Treatment Plants
Fully Operational	1,219
Inoperable	40
Other/unknown	35

The agencies are aware that releases of wastewater from sanitary sewers are occurring as a result of the historic flooding and are actively working to monitor facilities that have reported spills. Additionally, the agencies are conducting outreach and providing technical guidance to all other wastewater facilities in flood-impacted areas. Assistance teams will continue to be deployed to work directly with system operators to expedite getting systems back to operational status.

Below are two maps that show the status of drinking water and wastewater facilities in the affected areas.



Hurricane Irma Update

Background:

Hurricane Irma is making landfall in Key West, Florida with sustained winds of 130 miles per hour (mph). The storm surge is anticipated to be 5- to 15-feet. The storm is anticipated to pass Tampa, Florida, early Monday morning. The current trajectory has Irma impacting Alabama and Western Georgia (Tuesday morning), as a tropical storm and Memphis, TN area (Wednesday morning), as a tropical depression. The estimated rainfall in Florida and southeast Georgia is 8- to 15-inches with isolated areas receiving up to 20 inches. There will be an increased threat of tornadoes in impacted areas.

Local/State Activities:

Puerto Rico and U.S. Virgin Islands

The PR Emergency Operations Center and USVI Territorial Emergency Management Agency are at Full Activation. The respective Governors have declared states of emergency. The PR National Guard and USVI National Guard have been activated.

Florida

Florida has issued a state of emergency in all 67 counties within the state of Florida. The Governor has issued a mandatory evacuation that covers Miami-Dade County, Broward County east of US-1, Palm Beach County, low-lying parts of Brevard County, coastal and low-lying areas of Jacksonville and Duval County, and Monroe County (Florida Keys). Florida is currently operating at their highest level of activation - Level 1, with the State Emergency Operations Center (SEOC) staffed by Division of Emergency Management personnel and all Emergency Support Functions.

Georgia

The Georgia SEOC is currently operating at a Level 1 (full activation and fully staffed) activation. On September 8, 2017, the Governor extended a state of emergency for a total of 94 counties. The Governor also issued a mandatory evacuation order starting September 9, 2017, for all areas east of I-95 and other parts of the States coast.

South Carolina

The South Carolina SEOC is currently operating at Level 4 (enhanced awareness) activation. They are

monitoring Hurricane Irma's path. EPA is maintaining communication with the State to determine if EPA assistance is needed. EPA does not expect a MA due to the change in storm direction.

North Carolina

North Carolina SEOC is currently operating at Level 4 activation. They are monitoring Irma's path and EPA is maintaining communication with the State to determine if EPA assistance is needed. EPA will develop data as the storm system moves closer to North Carolina.

ALABAMA

The Alabama Emergency Management Agency (EMA) is currently operation the State EOC at a level 3 status (readiness and monitoring). On the evening of September 8, 2017, the Governor issued a full state of emergency Alabama Department of Environmental Management (ADEM) remains in a stand-by mode and has not been activated to the SEOC.

TENNESSEE

Has not declared a state of emergency at this time.

REGION 4 FEDERALLY RECOGNIZED TRIBES IN POTENTIAL STORM PATH

Region 4 continues to coordinate with the Bureau of Indian Affairs.

Federal Activities:

The FEMA National Response Coordination Center (NRCC) remains at Level I (24/7 operations, Full ESFs) in response to Hurricanes Harvey and Irma. The FEMA Region II Regional Response Coordination Center (RRCC) is at Full Activation.

FEMA RRCC currently have on Mission Assignment for Federal Operations Support (FOS) for \$35,000 to staff the FEMA RRCC and the Florida State EOC.

EPA Activities: Region 2:

Region 2 currently has 6 FEMA Mission Assignments (MA) for pre-deployment planning, implementation, and deployment of personnel for damage assessments on St. Thomas, St. Croix and St. John in the U.S. Virgin Islands, and Puerto Rico, including the islands of Vieques and Culebra.

EPA Activities: Region 4:

EPA personnel will receive deployment notices today. Mobilization to forward locations will take place on September 10 (Sunday); however, final mobilization to rally points in Florida

(TBD) is contingent on health and safety considerations relative to track and location of storm.

EPA is processing a federal operations support (FOS) mission assignment to support the FEMA IMAT in South Carolina at the SEOC. EPA is currently working on approval for a Direct Federal Assistance (DFA) mission assignment in Florida to conduct assessments. Region 4 is currently working with Regions 3 and 5 to integrate with assessment teams and potentially incident management assistance team (IMAT).

The EPA Region 4 Water program participated in a call with USACE ESF-3 lead for Harvey and Irma responses. The call was intended to notify EPA that USACE would be sub-tasking EPA to assist the state and USACE with coordination activities and assessments of the water and wastewater facilities. The USACE is working on obtaining a MA.

Drinking Water / Wastewater Assessments:

Region 2:

Puerto Rico Drinking Water Status: As of 8 AM on 9/10/17, **112,665** PRASA service connections are without drinking water. Each service connection serves 3 people (estimate). PRASA serves 96% of the PR population (3,411,000 in 2016). We estimate **337,995** people are without drinking water from PRASA, mostly in the north region. The total PR PRASA population without drinking water is **337,995** out of **3,274,560** (96% of 3,411,000) which represents **10.32%**. This doesn't include the non-PRASA systems which account for 4% of the PR population. PR remains under a boil water notice.

PRASA: 95% PRASA waste water treatment plants are in service.

Non-PRASA Systems. A small percentage of the drinking water systems in Puerto Rico are not run by PRASA. One Non-PRASA System, La Cuchilla, contacted PRDOH requesting an emergency generator. (Contact information – Manuel A. Justiniano, 787-914-5428). EPA will continue to assist PRDOH in contacting the Non-PRASA systems. PRDOH has requested EPA to prioritize by population, and to focus mostly on groundwater systems. Non-PRASA communities in need usually contact their Municipalities for assistance.

PR Drinking Water Priorities: The Water desk is working with PRDOH and PRASA to prioritize federal assistance for drinking water facilities, and essential parts of the drinking water distribution system, for repair. To date the following systems should be given attention:

System ID	Name	Population Served	Status
PR0666056	La Cuchilla	400	No power Need a generator

PR0523105	Acueducto Dona Elena	1016	Needs to be assessed
PR0604046	Mulitas Centro	1000	Needs to be assessed
PR0613046	Turabo Arriba	1200	Needs to be assessed
PR0613366	Acueducto Sector La Sierra	2100	Needs to be assessed
PR0677016	Acueducto Rural Tejas	2460	Needs to be assessed
PR0677146	Calabazas Arriba	1800	Needs to be assessed

PRDOH Public Water Supply (PWS) Program: Same as yesterday but repeated here.

Central Office has been closed since Tuesday, September 5th and is expected to reopen on Monday September 11. Central office has power, water, phone and internet services. There is no information on the status of the regional offices. Due to the upcoming storm (Jose), the PWS Program is not planning to engage in field activities over the weekend.

PRASA: Note: PRASA continues to update their drinking water information 3 times a day. The only assistance PRASA requested from PRDOH is in the certification of water delivery trucks. A list of water filling stations has been posted on PRASA's website <http://www.acueductospr.com/comunicados/default?docid=78E2496DDEA37F2A0425819400724EB8>.

PRASA continues daily sampling at water filling station (chlorine residual concentration and total coliform/E.coli). There are no reports of positive bacteriological samples.

Public Notice to Boil Water: Same as yesterday but repeated here. PRDOH has issued a Notice to boil the water for all of PR, by radio and newspaper. Information includes steps consumers can take before, during and after the event. EPA has requested copies of the public notice. In addition, PRASA also provided information on what to do before, during and after an emergency at their website: <http://www.acueductospr.com/TEMPORADA2017/index.html>

U.S. Virgin Islands: DPNR reports that all St. Croix drinking water and waste water facilities are fully functional. St. Croix is currently under a drinking water advisory due to the heavy rains. St. Croix has a fully functional laboratory. DPNR reports, based on limited information, that St. Thomas and St. John are under a boil water advisory. Some of the drinking water storage tanks in St. Thomas survived the storm. VIWAPA has staff on hand and expects to start gravity feeding drinking water sometime today on St. Thomas. VIDPNR is unable to get staff to St. Thomas due to the storm damage. St. Thomas laboratory is currently offline due to power and needs a generator. There is no information on the drinking water and wastewater situation in St. John.

Region 4:

USEPA Region 4 SEDS's Mobile Laboratory is prepared to conduct the following analyses for Drinking Water if assistance is needed by our Region 4 States. Analysis includes total coliform, E. coli, fecal coliform, and enterococcus. Contact has been made with the Seminole and Miccosukee Tribes in South Florida and EPA drinking water support and response capabilities were discussed.

The WPD compiled an inventory of community drinking water systems (CWS) and publicly owned wastewater treatment plants (POTW) that may be used during post storm damage assessment (see Tables 1 and 2 below).

Table 1
Total Number of Community Drinking Water Systems (CWS) and Total Population Served within Region 4 States and Tribal Lands

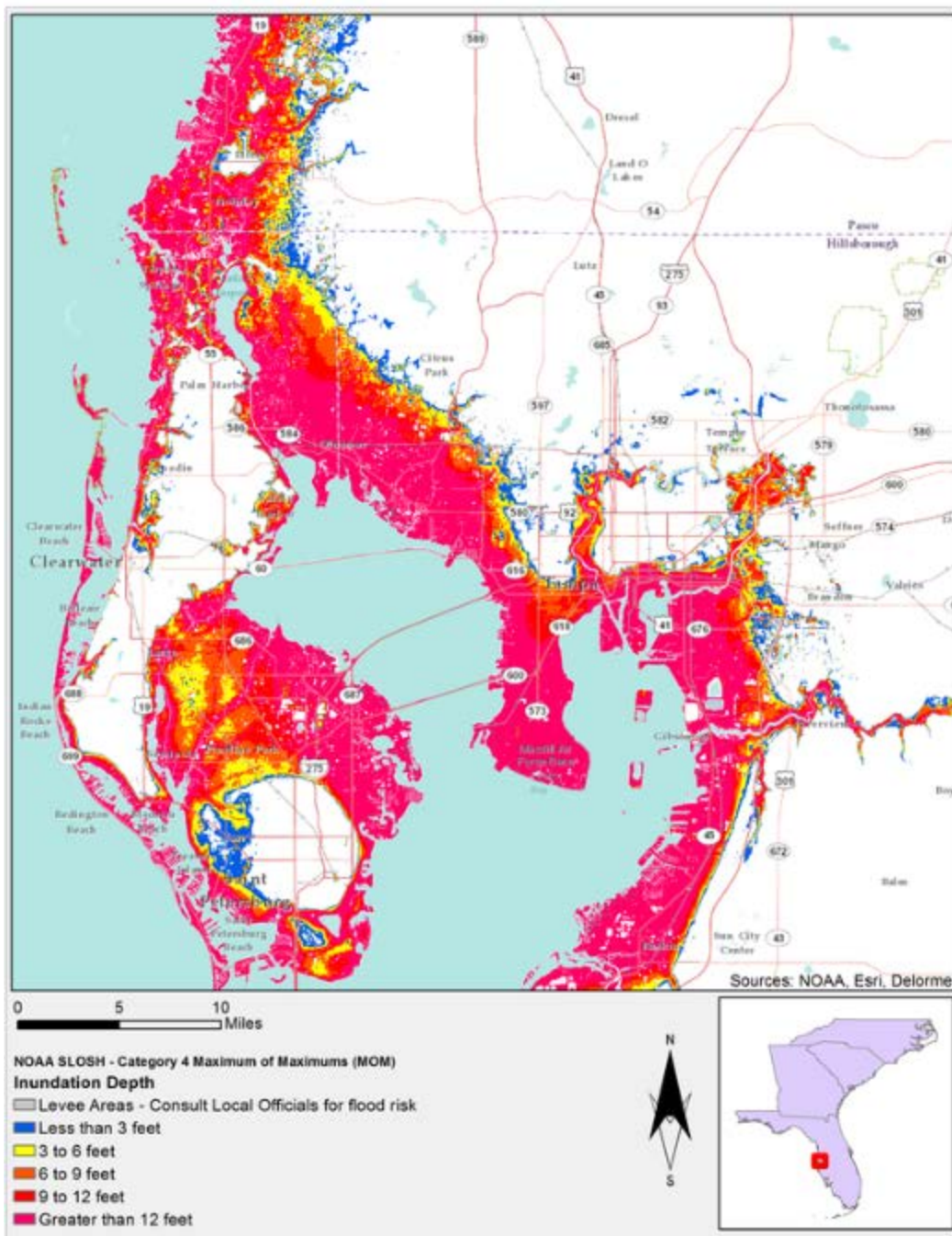
State or Tribe	Number of CWS	Population Served
Alabama	514	5,607,481
Florida	1631	19,917,363
Georgia	1749	8,917,820
South Carolina	583	3,795,571
North Carolina	1999	8,250,007
Tennessee	472	6,921,665
Catawba (SC)	2	715
Cherokee (NC)	4	10,099
Miccosukee (FL)	1	500
Poarch (AL)	1	750
Seminole (FL)	4	0

Table 2 Total Number of Publically Owned Wastewater Treatment Plants (POTWs)		
State or Tribe	POTW	Other WWTP of Concern
Alabama	374	To be determined.
Florida	2,410**	To be determined.
Georgia	572	To be determined.
South Carolina	172	To be determined.
North Carolina	396	To be determined.
Tennessee	372	To be determined.
Catawba (SC)	0	

Cherokee (NC)	1	
Miccosukee (FL)	0	
Poarch (AL)	0	
Seminole (FL)	0	

** Total number of facilities in Florida's StormTracker application, which includes POTWs, non-permitted WWTPs, and industrial facilities of concern. The number will be refined as information becomes available.

This map shows maximum projected storm surge for a Category 4 hurricane in the Naples, FL area. **(Same as yesterday)**



This map shows maximum projected storm surge for a Category 4 hurricane in the Naples, FL area.

(Same as yesterday)

